

In equation (11), \leftarrow shows a nonexistent path, that is, there is no path from $A_{0.11}^k$ to $A_{11.11}^k$.

Operation of Data Transmission Portion 146

Accordingly, finally, the following series of operational arcs is produced by the data transmission portion 146:

The arc selection portion 144 selects based on probability one of the operational arcs included in the operational path selected by the path selection portion 142 in accordance with the routine shown in equation 10 and equation 11 based on the weighting coefficients given to the operational arcs and decides on the final operational path.

controlling the robot so as to perform the operation shown by the selected operational arc when making the operation of the robot pass between said two states: and

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controlling the robot so as to return to a first of said two states, wherein said operational arc includes a self operational arc showing the operation of said robot when returning to the first state.

2. A robot control method as set forth in claim 1, when making the operation of the robot pass between two or more states among the plurality of states, operational arcs are selected between each two directly passable states among said two or more states so that the sum of the weighting coefficients becomes smallest.

3. A robot control method as set forth in claim 1, wherein said operational arc includes a self operational arc showing the operation of said robot when returning from one state among the plurality of states to the same one state.

4. A robot control apparatus for controlling the operation of a robot having a plurality of states corresponding to a predetermined operation,

at least one operational arc being determined between each of any two directly passable states among said plurality of states showing the operation of the robot when passing between said two states, comprising a weighting means for giving to each of the determined arcs of operation a weighting coefficient corresponding to the probability of that operational arc being selected,

an operational arc selecting means for selecting based on probability one of said operational arcs between

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said two states when making the operation of the robot pass between said two states based on said weighting coefficients of the operational arcs between said two states.

an operating data producing means for producing along with time operating data corresponding to the operation of said robot shown by said selected operational arc, and

controlling means for controlling the operation of the robot based on said produced operating data, wherein

said operating data producing means suppresses the production of said operating data corresponding to said self operational arc before said transition in state and after said transition in state when the states of the robot before the transition of state and after the transition of state coincide.

5. A robot control apparatus as set forth in claim 4, wherein

said operational arc includes a self operational arc showing the operation of said robot when returning from one state among the plurality of states to said same one state.

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